



Magazine

SEPTEMBER 1960



The *I.C.I. Magazine*, price twopence, is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. Edited by Sir Richard Keane, Bt., and printed at The Kynoch Press, Birmingham, it is published every month by Imperial Chemical Industries Limited, Imperial Chemical House, Millbank, London, S.W.1 (Phone: VICtoria 4444). The editor is glad to consider articles and photographs for publication, and payment will be made for those accepted.

POINT of VIEW

WILLING HORSES

By Mark Abrams

VOLUME 38 NUMBER 285

The I.C.I. Magazine

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Contributors



John I. Edwards joined I.C.I. from Cambridge and is shortly giving up his job as a construction engineer at Wilton Works to take up a scholarship at Harvard University. He took part in the 1955 Cambridge Spitzbergen Expedition and in the ill-fated expedition to the Batura Mustagh region of the Himalayas last year of which there are only two survivors.



Harold Morris is a pump attendant at the Hillhouse Works of General Chemicals Division. A Lancashire man born and bred, he has written a number of articles in the Lancashire dialect under the pen name of Pat Tippin. He also writes plays.



Dorothy Thomas is Assistant Public Relations Officer at Metals Division. Before that she was in charge of the Division's Internal Relations and contributed several articles to the Magazine.



James Thurlby is Assistant I.C.I. Press Officer. Before joining the Company he was in journalism with Yorkshire Newspapers and for six years with the "Irish Times" in Dublin.

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FRONT COVER: *Indian Kathakali Dancers*, by B. Bhansali, Bombay
(Rolleiflex automat camera, Tessar f3.5 lens, Ektachrome film with electronic flash at f8)



EARLIER this year the Government launched a special drive urging British manufacturers to increase their exports. No sensible person can doubt the fact that the prosperity of the people of this country depends upon our success in selling a large proportion of our output to people who live overseas. That is the only way we can get hold of the money to buy from the rest of the world enough of the things which mean so much to even the most modest British consumer—tea or coffee for breakfast, newsprint for a morning paper, copper for electrical goods, tobacco, cotton, wool, chocolate, fruit, iron ore to be made into car bodies and refrigerators, etc. If the average standard of living in Britain is to rise then, among other things, we will have to import more and, therefore, export more. And that is just not happening. In 1959 the volume of our exports of manufactured goods was actually less than it had been in 1957, and little more than 1% higher than it had been in 1956.

THE present concern about export is, therefore, thoroughly justified. We must export more, but how is this to be brought about? In the discussion that followed the Prime Minister's call to exporters one very striking fact emerged. According to a letter sent to *The Times*, nearly one-third of all our exports of

manufactured goods depend on the activities of only forty large companies; at the other extreme there are thousands of smaller firms who export nothing. This general pattern is repeated in many particular industries; for example, two-thirds of our exports of footwear come from only thirteen companies, and hundreds of firms in this industry export none of their output.

FROM figures such as these it is now being argued that one of the best ways to expand our overseas sales is to mobilise the thousands of small firms in this country and help them to enter export markets. For at least two reasons I find this very difficult to accept. In the first place, the Government is already spending millions of pounds each year doing just this without, apparently, much success. And in the second place, the proposal seems to be based on poor reasoning. If the typical small or medium-sized firm has not entered the export trade it must be because it finds such activities too costly, too difficult and relatively unprofitable. In short, they are just not suited for participation in the strenuous battles of international trade.

But there is no justification for the critics to be upset by this. We find similar circumstances in many other fields. Most of the people who represent Britain in the Olympic games are in

their twenties; when they fail to win gold medals we don't argue that Britain would do better if a great many older and younger people were persuaded to join the teams. Or again, should Britain lag behind other countries in scientific invention, there would be little support for a proposal to remedy this by adding to the efforts of our small number of scientists the efforts of millions who, for one reason or another, had steered clear of any scientific training.

FROM the figures published in *The Times* it would surely be more realistic to conclude that the time has come for us to reduce the encouragement now given to small and medium-sized firms who show little interest in developing an export trade. Instead, we should look for expansion to the comparative handful of large companies who are already doing most in this field. If the Government is going to take any steps to help British industry to sell more goods overseas then they should be part of a policy which, before everything else, raises the efficiency of these few big companies and stimulates them to compete more effectively in world markets. This is much more likely to show results than a programme which from the start bases itself on dragging unwilling horses to the pond and then bribing them to drink.

The opinions expressed in this article are not necessarily those of the Company

MARSTON CAN MAKE IT!



An aircraft flexible fuel tank being made from 'Marlite,' a woven nylon and 'Terylene' fabric coated with a rubber-like substance

By James Thurlby

If you want a heat exchanger to cool electronic equipment in a rocket, a radome accurate to several thousandths of an inch, titanium rings for an aero engine or a huge laminated plastic structure for a proton synchrotron (as Harwell does)—then the place for you to go to is the Marston Excelsior factory of I.C.I.

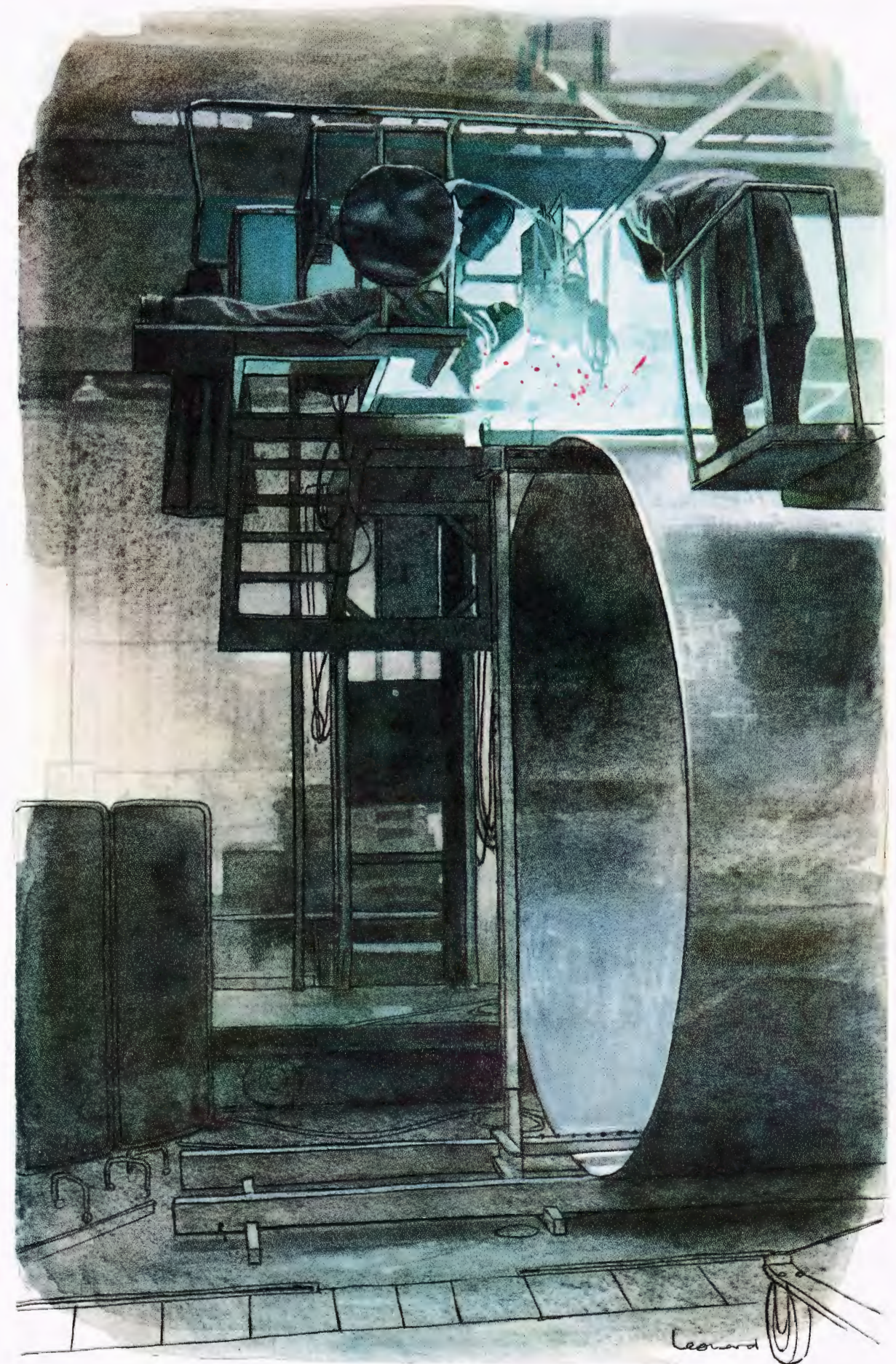
ODDLY enough, the first thing we discussed when I arrived at the Marston Excelsior factory at Wolverhampton was logic. Which was not so illogical as it seems, because I wanted to discover the reasons why Marston has become the repository of so many diverse skills and the scene of so many widely different but uniformly expert fabricating activities, not only in metal but in plastics.

To look at the Marston literature is rather like trying to follow a latter-day Lewis Carroll through an aluminium looking glass into a world of strange names and even stranger shapes. Indeed, the shapes of some of the things Marston make are so bizarre that it

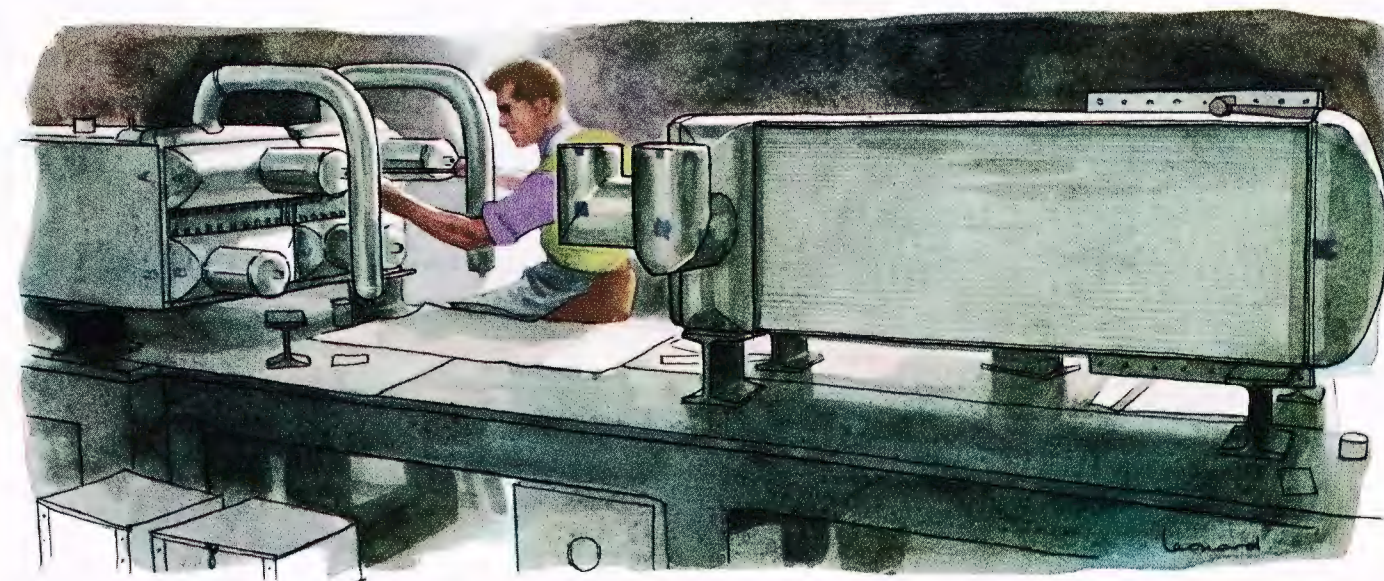
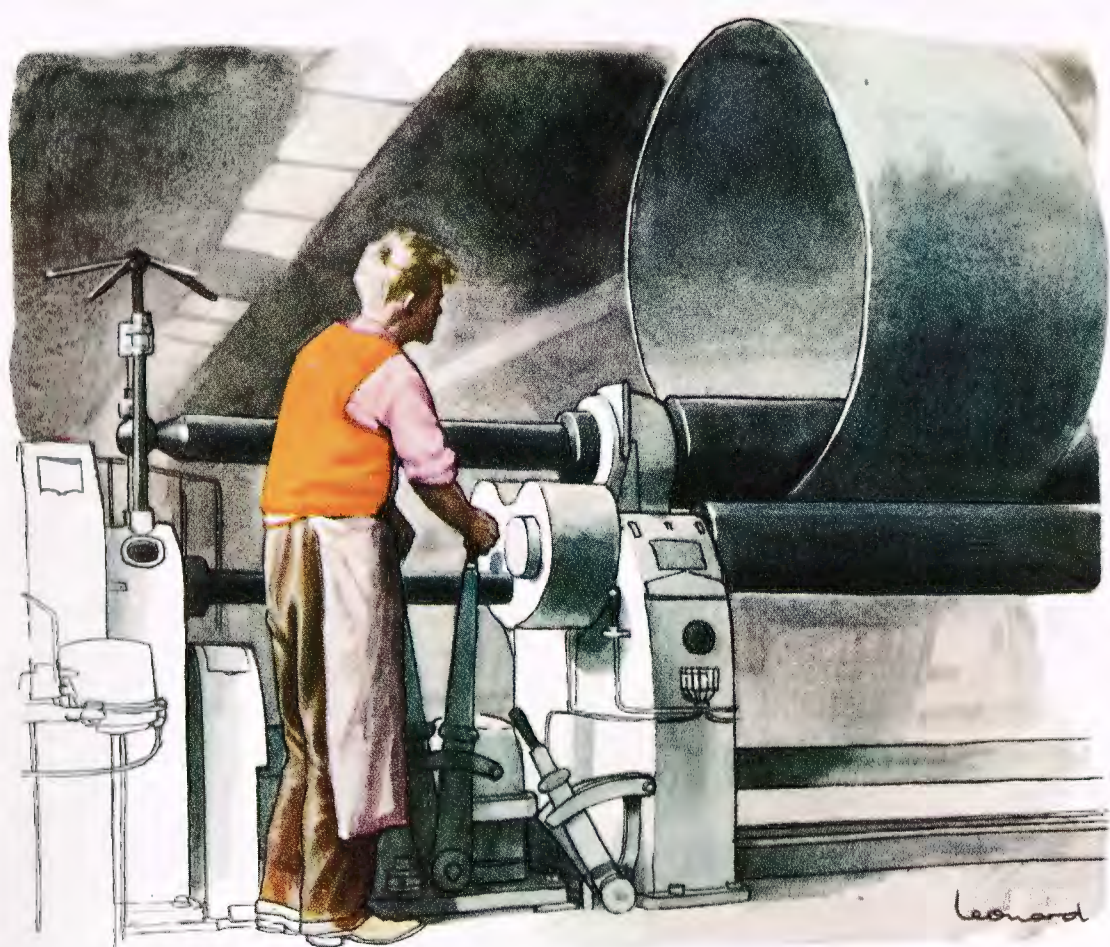
seems surprising no one has thought of entering one or two of them for exhibitions of modern art up and down the country. Less worthy entries have triumphed before now.

And the names! One would swear that Marston or its customers had employed Edward Lear as a copywriter. I could not get out of my mind such phrases as "burst slug detection gear" and "complex secondary surface light alloy units." They haunted me, especially the burst slug. Perhaps this product is for export only—to the land where the Jumbies live.

Many of the strange and intricate shapes—pipe-work, heat exchangers, pressure vessels—that Marston



Seam welding a large pressure vessel using what is called the "inert gas-shielded consumable electrode process." The platform on which the welder is lying, and to which the welding equipment is attached, moves automatically along the length of the vessel.



TOP LEFT: **Turning flat aluminium plate** into cylindrical shape. The flat plate is rolled backwards and forwards, passing over two bottom rollers and under the top roller. The pressure of the top roller on the plate is gradually increased, thus causing the plate to curve until its ends meet to form a cylinder. ABOVE: **Fitting together the tanks and pipework** which form a heat exchanger assembly—in this case for an oxygen producing plant.



LEFT: **Lowering the water-way channels and air-way corrugations** of an automobile radiator into a bath of molten solder to complete the joints between the component parts. RIGHT: **Hand welding** a section of a chemical plant column using the inert gas process. Welders are trained in Marston's own welding school and return to the school at regular intervals.



make are fashioned in aluminium. Craftsmen manipulate the metal as if it were as malleable as clay. But the remarkable thing about Marston, whose founders made tin trunks and deed boxes in the mid-nineteenth century, is that by no means all the products are fashioned from metal.

Diverse Operations

One department, for instance, is full of inflated flexible fuel tanks made from synthetic rubber, looking for all the world like happy recumbent rhinos. Another revealed what might at first sight have been taken for examples of a modernistic trend in night-watchmen's huts. They turned out to be the laminated plastic nose cones and radomes for such well-known aircraft as the Javelin, Vulcan and Valiant. A few yards away men were working on what is believed to be the biggest laminated plastic job yet undertaken in the world—parts for the new Harwell proton synchrotron.

How does it happen that Marston performs so many diverse operations under one roof—or, rather, under two roofs, for the firm has a sister factory in Leeds? Examining the logic of this took me on a complete tour. At the end of a day the pieces of the jigsaw were slipping into place. As they did I began to see how traditional and modern skills have been blended and why everywhere I went on the shop floor each employee was doing an individual job. When you are making a great many different things to a great many different specifications, automation does not enter into the picture. But craftsmanship does.

Early History

The history of Marston goes back to a firm of japanners founded in Wolverhampton in 1740. John Marston bought the firm in 1871 and began to manufacture the tin and brass goods that his predecessor had been lacquering. The firm developed the original Sunbeam car and for sixteen years turned out the T.T.-winning Sunbeam motor cycles. But the staple product during the early years of the century was the Marston radiator. Hence the present large turnover in radiators and heat exchangers which occupies so many of the 2000 employees.

It would appear to the visitor that no two customers ever want the same size or shape in heat exchangers. The firm makes the largest in Europe for oxygen and nitrogen plants; it makes the smallest—for cooling electronic equipment in aircraft and rockets; it makes

heat exchangers for the Comet, the Viscount, Caravelle, Javelin, Seahawk and many other aircraft; for the 3000 h.p. Deltic diesel-electric locomotive; and radiators for cars, buses, lorries and marine engines—not forgetting combine harvesters. A glimpse of the production effort in this section makes the Marston claim to rank second to none in the world as heat exchanger specialists seem mere modesty.

Marston began what was to be a major connection with the aircraft industry when it made petrol tanks for the aeroplanes of the first world war. Since then this link has developed in many different ways. During the second world war such was the demand for radiators and petrol tanks for aircraft and armoured vehicles that Marston's Wolverhampton factory became seven factories, and its payroll 7000.

Flexible Fuel Tanks

Flexible fuel tank work was born of the war too. Development of flexible tanks is capable of an engagingly simple explanation. When metal tanks became vulnerable to modern weapons they were covered with layers of rubber. Later, to save weight and simplify assembly into the aircraft, the outer envelope was made of fabric-reinforced synthetic rubber and the inner metal container was no longer needed. So appeared the present-day 'Flexelite' and 'Marlite' tanks, which can be sited in wingspace or any other multi-cornered free area of an aircraft's fuselage.

During the war these tanks were covered with self-sealing bullet-proof sponge rubber. Today they are light, tough, and ozone-resistant at high altitudes.

Recently a jumbo version of the aeroplane's flexible tank has appeared on the roads. These elephantine containers can be made to hold 10,000 gallons of liquid—anything from ethylene glycol to fruit juices—for storage or transport and are in growing use for ocean and road freight.

Fibre-glass Radomes

An interest in synthetic rubber is not so far removed from an interest in plastics. The Marston experience in the manufacture of radomes with glass fibre laminates—that is to say, thin layers of woven glass fabric stuck together—is today enabling them to make progress in new fields where the weight- and cash-saving virtues of these materials are attractive. This department demands infinite patience. In radome manufacture, for instance, if the close tolerances—thousandths of an inch—laid down for the various

layers of the laminate are not adhered to, the radar beams are distorted in their passage through the fabric.

Cab roofs for diesel locomotives, industrial fans and panels for static water tanks are some of the latest products of this growing department. Not least of their current efforts is the construction of the all-important vessels through which atomic particles will be accelerated in the new Harwell proton synchrotron. This will be used for research into the nature of atomic nuclei. Upon Marston plastics will depend greatly the success of this project.

Pursuing the logic of Marston development brings you finally to the heavy gauge department and to those security-shrouded sections engaged in the fabrication of fuel elements for the Atomic Energy Authority's research reactors. The two are not unrelated, for much of the post-war heavy gauge work undertaken by the company was in the form of many miles of pipework constructed for A.E.A. The fabrication of enormous pieces of equipment for the same Authority has led to the manufacture of vessels and pipework, large and small, for a multiplicity of uses, mainly in the chemical industry.

Strange shapes obtrude again—and stranger names. One wonders vaguely what kind of restless activity requires a "spherical surge vessel" which looks, on the factory floor, rather like a giant's beach ball.

But there are new notes at every turn. Today, the so-called new metals are being increasingly used. Marston have for the past two or three years been actively engaged in the fabrication of component parts in titanium and zirconium. Large numbers of titanium rings, approximately 3 ft. in diameter, have been rolled, flash butt welded, and machined



A girl assembling an electrical shotfiring apparatus. This particular model is an M.E.6 shot exploder specially designed for use in coal mines at the coal-face.

to fine limits for Rolls-Royce aero engines. Another job has been the lining of huge vessels with sheet titanium for what will be, when it has been commissioned, one of the largest chemical plants of its type in Europe.

Final honour of the tour for me was to be allowed to step inside that plant in a far corner of the factory grounds where for five years Marston men have been fabricating fuel elements containing uranium for A.E.A. research reactors. This was a quiet, orderly, security-regulated department where the work is done with the same precision and care which govern all the Marston activities.

One of the firm's great assets is its adaptability; another, its capacity to undertake work to precise and individual specifications; these, together with a good team spirit, give Marston a very special place in British industry.

People and events . . .

£10 million Nylon Expansion Programme

RECENT important Company announcements have been about nylon, the I.C.I. Pension Funds, and the merger of Alkali and Salt Divisions. To meet the expected increase in demand for nylon from the textile and plastics industries, I.C.I. has decided to build a £10 million nylon plant extension. The existing plants and the one at present under construction at Wilton are designed for the production of nylon 66 polymer. This latest extension, which will have a capacity of about 15,000 tons per year, will produce caprolactam, the monomer for nylon 6, not hitherto produced in this country. As we go to press the

location of the new plant has still to be announced.

Pension Funds and Property

THE announcement recently of the link-up between the I.C.I. Pension

Fund Trustees and City Centre Properties Ltd., the Company headed by Mr. Jack Cotton, the well-known property expert, indicates a more active interest in property investment by the Pension Funds. Although this is a new departure for I.C.I., in fact, the joining up of big long-term investors with property development companies has become quite a common feature in recent months. City Centre Properties have already made somewhat similar arrangements with such well-known concerns as F. W. Woolworth and Co., Barclays Bank, Shell Mex and B.P. Ltd. and The Legal and General Assurance Co. Other heavy investors in properties include the Church Commissioners and the Mineworkers' Pension Funds.

The formation of a joint company means that the Pension Funds will participate in any profits arising from the development of selected sites controlled by City Centre Properties in return for the provision of long-term funds by the I.C.I. Pension Trustees. Each side is providing three directors. **Mr. N. J. Freeman**, head of I.C. Insurance and Investments Department, **Mr. F. Hill**, head of Pension Funds Department and **Mr. R. A. Lynex**, I.C.I. Secretary, are representing the I.C.I. Trustees.

Divisions to Merge

FOR administrative reasons, the Salt Division will be merged into the Alkali Division on 1st January 1961. The general policy regarding production and sales of salt will remain unchanged. Relations with suppliers and customers will continue as at present. Relations with other sections of I.C.I. will be the subject of separate notifications on a departmental basis.

I.C.I. Men in Rome

BESIDES hurdler **John Metcalf**, featured on page 304, two other I.C.I. men will be in Rome competing in the Olympics when this appears in print. They are Metals Division's small-bore rifle experts, **Arthur Skinner** and **Bill Godwin**.

Arthur Skinner works in Metals Division's Engineering Department. He won the British Small-bore Championship in 1959 and at the 1960 Bisley meeting last June retained his title and also won the championship of the meeting. At the time of writing he is taking part in the American Championships at Camp Perry, Ohio, the first Briton to take part in the individual contests since the war. He decided, he told us, to spend his summer holiday in this way because he hoped to qualify for the Olympics and felt trying his luck in America first would be valuable experience.

Bill Godwin works in the Ammunition Sales Department. He started his shooting career in 1930. His first major success was the Warwickshire Championship in 1932 and he won the British Championship in 1952.

Both men have shot for Britain many times in international events and the number of trophies they have carried off in recent years justifies the national newspapers' prediction that they have every chance of finishing in the top six in Rome.

Report from Paris

THE styles chosen by the Paris couturiers using 'Terylene' fabrics for their new autumn collections will be on sale in Britain later on, reports our fashion correspondent. Already British fashion-house buyers, visiting Paris to find ideas for their next ready-to-wear ranges, have snapped up some of the 'Terylene' designs and are planning to produce them over here, using the original 'Terylene' materials.

Cardin, whose collection was widely applauded by both the fashion press and buyers, showed a suit and stole in grey and white fleck 'Crimplene,' the new 'Terylene' jersey fabric. The suit showed the "tube" look and had a side-buttoning jacket. Nina Ricci had a very sophisticated-looking cocktail



Mr. Skinner



Mr. Godwin

sheath in violet 'Terylene'/wool crepe, bare-backed, but high in the front, tying with a cowboy-style bow at the neck. 'Terylene'/wool crepe was particularly successful in Paris this season—Jacques Heim, Jean Desses and Jacques Griffe all used it for afternoon and cocktail dresses.

Guy Laroche chose a houndstooth check 'Crimplene' jersey for a dress and jacket in muted blue-grey. He said it was inspired by "The World of Suzie Wong" which he had seen the day before he set to work on the fabric.

Plaque for the Groundsman

"THE fastest track I have ever run on," was the comment of Belgium's Roger Moens, 800 metres world record holder, after he had run the fastest 800 metres recorded in this country at the recent athletics international between Britain and Belgium, held at the sports stadium at Billingham.

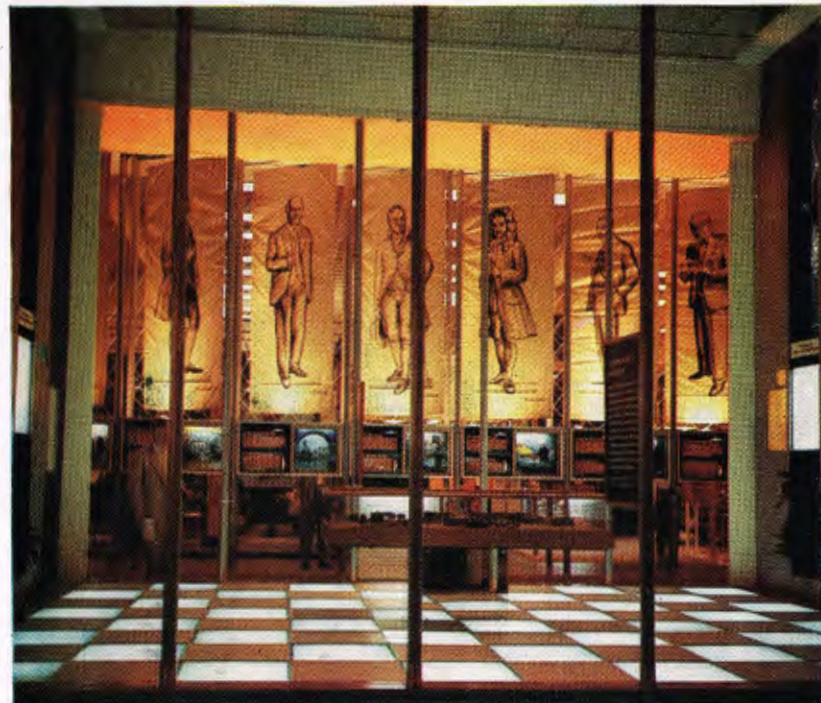
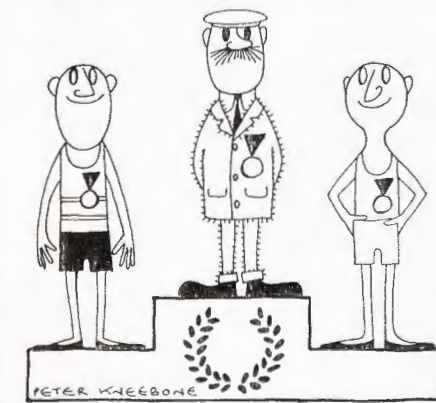
The fine condition of the track drew many compliments from competitors,

and this was gratifying indirect praise for the many hours of work put in by the ground staff, under head groundsman **Joe Jones**. Direct tribute came at the Billingham Synthonia Club's executive council meeting two days after the match, when the Club chairman, **Mr. S. C. Johnson**, made it known that Mr. Jack Crump, secretary of the British Amateur Athletics Board, wished the work of the ground staff to be acknowledged by the presentation to Mr. Jones of a plaque, similar to those presented to the winners of the athletics events.

Hillhouse Bard

HAROLD MORRIS, whose story, *Shot in the Dark*, appears on page 322, says he has been writing ever since he could wield a pencil. He was born 51 years ago in Belmont village, on the moors above Bolton, and Lancashire places and people loom large in his stories. At the age of nineteen he had the thrill of first seeing his work in print. The editor of the *Bolton Journal* accepted an article and he has contributed on and off ever since to the Lancashire press. He writes in prose and verse, in dialect and standard English. For his articles in dialect he uses the pen-name of Pat Tippen. How he came by that name is a long story and it needs to be told by Harold himself—in dialect.

During his twenty years at Hillhouse, Harold Morris has worked as a pump and compressor attendant. His first contribution to the *Magazine* was the



British Exhibition—New York. This view of the I.C.I. stand was taken by Mr. W. H. L. Hooper of the I.C.I. (New York) office. It features some of the ancestors of the British chemical industry: (left to right) Joseph Priestley (1733–1800), Sir William Bragg (1862–1942), John Dalton (1766–1844), Sir Isaac Newton (1642–1727), Sir William Ramsay (1852–1916) and Sir Alexander Fleming (1881–1955).

IN BRIEF

Kremlin Showing. A copy of the I.C.I. film *Visqueen in Building* with a Russian commentary aroused considerable interest when it was shown at the recent Plastics Division exhibition in Moscow, and by special request it was sent to the Kremlin for a showing.

'Alkathene' and Everest. The frozen wastes of the Himalayas proved a rigorous testing ground for 'Alkathene' film. The recent Indian Mount Everest expedition was supplied by I.C.I. (India) with sufficient 'Alkathene' film for laminating their hessian kitbags and tarpaulins and other covering packages. Brigadier Gyan Singh, the leader, wrote to I.C.I. (India) from his advance base at 21,200 ft.: "You will be pleased to know that we have found your products very useful and that the same have played a vital role in the expedition."

Change of Name. The name of the subsidiary company manufacturing paint in Mexico, Pinturas Servicio S.A. de C.V., has been changed to Pinturas I.C.I. de Mexico, S.A. de C.V.

Modernisation at Aberdeen. Scottish Agricultural Industries has announced a plan to reconstruct its Sandilands Chemical Works at Aberdeen at a cost of more than £1 million. Modernisation of this 110-year-old fertilizer factory, which was taken over by S.A.I. in 1928, should be complete by the summer of 1962.

Indian Scholarships. Three more awards have been made by I.C.I. (India) under their scholarships to British universities scheme. Mr. A. K. Bhattacharya will study foundry technology at Birmingham, Mr. P. E. Narasimhan chemical engineering at Durham and

Mr. R. Srinivasan physics at North Staffordshire.

First Again. Hillhouse first-aiders, who walked off with the I.C.I. First Aid Trophy last March, scored another first when they competed in the recent Fleetwood and District First Aid League Competition.

Wallpaper Bid. An offer by I.C.I. to purchase the shares not already held by I.C.I. of Withins Paper Staining Co., manufacturers of 'Bulldog' brand wallpaper, has been accepted by holders of over 90% and the offer has become unconditional.

Snakes Alive. Of the many letters that safely arrive at I.C.I. offices despite mixed-up addresses, we feel a letter which reached Harrogate last month takes a lot of beating. It was addressed to "I.C.I. Vipers Division." Nobody has yet discovered who the snake in the fibre might be.

Happy Landings. Polyurethane flexible foam made from Dyestuffs Division's 'Daltocel' was used to replace the usual foam rubber in the landing pit for the pole vault at the recent athletics international at Billingham. Packs of large pieces of foam were topped with a deep layer of fine flock. It is the first time it has been used at any first-class athletics event.

New Plastics. Plastics Division is installing a plant to manufacture polyvinylidene chloride copolymers and expects to have the first of these products available in production quantities early next year. The main market for these resins is the packaging trade, where they are used for coating paper, cellulose and thermoplastic films.

story of his chimney-climbing exploit with some steeplejack cousins, which won our holiday article competition two years ago. At present he has a number of irons in the fire, including a couple of plays and some short stories for radio.

Attracting the Arts Man

JUDGING from the comments of some of the aspiring young arts graduates who have recently come up before the I.C.I. selection panel, the Company's new recruitment booklet, *A Degree nearer Industry*, is doing a good job. "I'd always regarded I.C.I. as a large soulless monopoly. Reading your book has made it seem much more human," has been a common remark. It is a

beautifully produced booklet and snapily written. But the real reason for its success lies rather in the fact that I.C.I. gave the brief to an independent journalist, Kenneth Harris of *The Observer*, to make what is more or less an outside report on arts graduates' prospects in industry and in particular in I.C.I. Unlike run-of-the-mill hand-out literature, therefore, it contains some honest "beefs" as well as the expected bouquets.

To gather the material for his report Mr. Harris travelled round the Divisions for, on and off, a year, interviewing something like 150 arts graduates, most of them in their twenties and early thirties. Not only that, he interviewed some of the wives too. Every conversation was on the strict

understanding that Mr. Harris would not identify anyone with the views he expressed and the names, places and universities that appear in the report are "scrambled."

So widely has this experiment been praised that Mr. John Gough, head of Central Recruitment Section, tells us that the possibility of applying the same approach to other types of jobs in I.C.I. is now being considered.

New Safety Record

LAST March the 2,200 employees of the Castner-Kellner Works of General Chemicals Division completed two million hours without a lost-time accident. Since then they have been steadily adding to this total until at 10 a.m. on 8th August they broke the all-time I.C.I. record of 2,871,970 hours, set up way back in 1935 by Nobel Division's Crosslee Factory. This is the second time Castner have passed the two million mark. Their previous best effort was a run of 2,378,999 hours in 1958.

Besides Castner, only two other factories have achieved two million hours without a lost-time accident this year. They are Wigg Works (also General Chemicals Division) and Fleetwood Works (Alkali Division).*

General Chemicals Division have also won another safety honour. They share top place with Paints Division in the I.C.I. Safety Trophy Competition. Both divisions cut their accident frequency rate by 20% in the period July 1959-June 1960.

S.O.S. from St. Mary's

AN emergency call was received at Plastics Division Headquarters at Welwyn recently from St. Mary's Hospital, Paddington.

The caller needed a short length of plastic tube which had to be inserted in a patient's chest. The matter was extremely urgent, as the operation had to take place within a few hours. The tube had to be 18-22 mm. in outside diameter, 10 cm. in length, with a minimum wall thickness, but thick enough to prevent collapse when pressed between two fingers. Efforts

*At 11 a.m. on 17th August Castner-Kellner Works completed three million hours without a lost-time accident.

to obtain a suitable piece of tubing from trade suppliers had failed. An answer was requested within half an hour.

It was decided that polythene thin-walled tubing would not resist pressure by hand, so 'Fluon' section was approached. Dr. J. E. Tomlin was able to provide a piece of tubing 18 mm. in diameter, long enough, and with a 1 mm. wall which could be depressed about $\frac{1}{8}$ in. by hand. He delivered this personally to the hospital half an hour before the operation was planned.

The operation took place, and a letter was later received from the hospital, part of which reads: "I am happy to let you know that the patient has done extremely well... and I hope will continue to do so. Again, very many thanks."

Fashions for Outer Space

SLIM Jim—that is the nickname the S.R.A.F. have given to the new 'Terylene' and nylon pressure suit which has been undergoing high-altitude tests recently. One of these suits was on display at the British Interplanetary Society's conference in London and it aroused a great deal of interest. The entire suit weighs only a



few pounds. The visor in the helmet is made from 'Melinex,' the polyester film manufactured from the same chemicals as 'Terylene,' which withstands the pressure better than glass or any other plastic.

In striking contrast to this modern lightweight spacesuit, the prototype of a suit designed three years ago was also on display. This was a cumbersome affair made from metal, with jointed arms and legs which, as scientists have now realised, would probably

freeze solid in very high atmospheric conditions.

The Slim Jim has already been passed as practical and safe for heights up to 100,000 ft., and is now in everyday use with R.A.F. pilots flying at that altitude.

Pensioners' Club

FOR some time now, monthly gatherings of pensioners have been held in the Sports Pavilion at Kynoch Works, Witton. No organised activities were planned, as it was felt wiser to see exactly what was wanted and how many people supported the venture. Some came for a quiet game of snooker or bowls, some just preferred to sit around and chat; but now the pensioners have decided to organise themselves. They propose to call themselves Imperial Chemical Pensioners' Association (Metals Division).

Chairman of the new association is 62-year-old Mr. F. E. Blunn, a former foreman in the engineering workshops at Witton; the vice-chairman is a former reader in The Kynoch Press, 78-year-old Mr. H. Eden; 69-year-old Mr. E. Kimberley, a one-time ledger clerk with 49 years' service to his credit, combines the offices of secretary and treasurer.

Indoor Gardening ABC

FOR any readers interested in indoor gardening a new book by Mr. Philip Harvey should prove a boon. It is *Indoor Gardening as a Pastime*, published by the Souvenir Press, price 15s. Mr. Harvey, a frequent contributor to the *Magazine*, has aimed his new book particularly at the flat or bed-sitter dweller. He shows how, with reasonable care and attention, there is an immense range of plants that can be grown in the ordinary living room by any beginner.

It is a book guaranteed to whet the appetite of anyone with the slightest green-fingered itch. Unlike most gardening manuals, it makes entertaining reading too. The author ranges from severely practical advice on how to grow hyacinths to flower on Christmas Day or how to grow herbs in a window box in a big city, to, in a chapter on salads, his idea of heaven—a modifica-

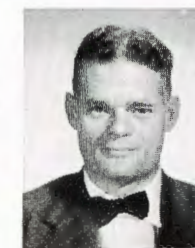
tion of the famous eighteenth-century clergyman, the Rev. Sydney Smith's "eating pâté de foie gras to the sound of silver trumpets." Mr. Harvey states he would be happy with spring onions and salt, but would like to retain the musical accompaniment.



The book ends with a useful appendix giving the names and addresses of specialist suppliers for various bulbs and plants.

New Chairman

MR. GEORGE WHITBY, who as we mentioned briefly last month, has succeeded Dr. Caress as Chairman of Fibres Division, joined the 'Terylene' Council at its formation in 1951 after being deputy chief engineer at Wilton. He became joint managing director of the Council in 1954 and of Fibres Division on its foundation in 1956.



Mr. Whitby

Mr. Whitby joined I.C.I. in 1934 as an engineer, and served first with Billingham Division on the design, construction and operation of chemical and oil refining plant. During the war he was seconded to the Armaments Design Department of the Ministry of Supply, where he became assistant chief engineer responsible for rockets and guided missiles.

Outside work he has always been interested in gardening—he is a council member of the Northern Horticultural Society. He enjoys a game of bridge and has renewed his interest in golf.

PEOPLE

Dr. Alfred Caress, whose appointment to the I.C.I. Board we announced last month, will act for the time being as an additional overseas director with special responsibilities for Western Europe.

Mr. Harold Binks recently received gifts from works councillors past and present at Amal Ltd. (Metals Division) to mark his retirement after 27 years' continuous service as Works Council chairman.

Dr. John Ferguson, I.C.I. Research Director, has been appointed honorary treasurer of the Society of Chemical Industry.

Mr. George Wood, a plumber's mate in the Wilton Central Workshops, has received the British Legion's top award—the Gold Badge for meritorious service.

By defeating Newcastle in the Junior Chamber of Commerce debating competition, Slough has again reached the national final. The motion was "that it is better to be a resounding failure than an unqualified success" and among the Slough team of five which opposed this was **Mr. Mike Alston** (Paints Division). The finals against Derby take place next month.

Archives—I

THE discovery, six years ago, of a bundle of letters hidden away in an attic in London has caused an American professor to visit Alkali Division Headquarters at Winnington.

The letters were written by John Ruskin to Miss Margaret Bell and her pupils at Winnington Hall between 1859 and 1873. Now Professor Van Akin Burd, who is professor of English at the State University of New York, is spending six months in Europe completing his research on an edition of the Ruskin letters which he is editing for publication in the United States.

Ruskin had a great interest in education and in Miss Bell's academy at Winnington Hall, which, incidentally, is now a residential club for management, he found a school run on advanced lines for that time. He visited the school periodically during the 1860s and from time to time took art classes for Miss Bell.

The professor, who will be visiting Winnington again before his return to the United States, says that the collection of letters throws valuable light on

the developments of Ruskin's ideas on art and political economy. The collection contains some 350 letters, most of which were found in the attic of a house in London that had been owned by a member of the family of one of Miss Bell's teachers at Winnington Hall.

If any readers have records of the school in family archives dating back to those days, **Mr. A. S. Irvine**, manager of the Alkali Division Information Service, would be pleased to hear from them, for his department is acting as "postbox" for the professor while he is in Europe.

Archives—2

RECIPIENTS of Nobel prizes during the last twelve years are familiar with the signature of Nils K. Stahle, for it appears on the £15,000 cheques that are part of every award made by the Nobel Foundation.

A few weeks ago Mr. Stahle, who is executive director on the Foundation's board, visited Ardeer Factory. Accompanied by his wife he had flown to Scotland from London, where he had been attending the tercentenary celebrations of the Royal Society.

As legal authority on the Nobel Foundation he spent some time with the Division's patents, diaries and publications that document the association of Ardeer with its distinguished founder. A letter in Nobel's own hand he read with special interest. Dated 18th September 1873, it is addressed to Mr. John Downie, with whom he founded the British Dynamite Company, and suggests possible sources of glycerine suitable for explosives manufacture. At Mr. Stahle's request this and other historical documents in the Division's possession are being photographed and copies sent to him in Sweden.

£7 million Bonus

OVER 93,000 employees have qualified for a bonus in respect of 1959 under the Profit Sharing Scheme. This bonus amounts to just over £7½ million, averaging roughly £78 per employee or £59 after personal income tax has been deducted.

This year £1,247,000 Ordinary Stock will be handed over to the 23,000

members of the scheme having 40 or more units of stock standing to their credit. Nearly one half of the stock handed over to employees last year has been retained by them.

50 YEARS' SERVICE

The following employees have completed 50 years' service with the Company: **Alkali Division:** Mr. H. Whittaker, Fleetwood Works (1st August). **General Chemicals Division:** Mr. G. Sproston, Castner Kellner Works (2nd August). **Salt Division:** Mr. W. Curzon, Winsford Works (30th June); Mr. J. Sadler, Winsford Works (31st July).

APPOINTMENTS

Some recent appointments in I.C.I. are: **Head Office:** Mr. W. G. C. Cashford, head of North American Department; Mr. J. M. Wollaston, head of South American Department. **Metals Division:** Mr. A. Ratcliffe, Division Director and Joint Managing Delegate Director of Marston Excelsior Ltd. **The Regions:** Mr. A. B. Copnall, Leicester Area Sales Manager (Chemicals); Mr. A. C. D. Rankin, Manchester Area Sales Manager (Chemicals).

RETIREMENTS

Some recent announcements of senior staff retirements are: **Head Office:** Mr. M. G. Tate, head of American Department (retiring 30th September); Mr. L. Patrick, head of Government Contracts Department (retiring 30th September). **Metals Division:** Mr. W. Robson, Division Director and Joint Managing Delegate Director of Marston Excelsior Ltd. (retiring 30th September).

OBITUARY

Mr. W. B. Hughes

We learn with regret that Mr. W. B. Hughes died on 6th July, at the age of 61, as a result of a tractor accident. After serving as a very young man in the Infantry in the First World War, in which he lost the sight of an eye, Wally Hughes joined Levinstein Ltd. in 1916, before its amalgamation in the British Dyestuffs Corporation, and went out to Brunner Mond (China) in 1921 as a dyestuffs assistant. After it became I.C.I. (China) in 1928 he assumed responsibility for dyestuffs sales in Shanghai, during the period leading to the "China incident" when the country was disrupted by civil war and subsequently invaded by the Japanese. Returning from leave in Australia in 1941 he was unfortunate enough to be interned by the Japanese in Shanghai until the end of the Second World War. After serving for a further period in China he went to Java in 1946 and, during the disturbed and difficult years following the emergence of Indonesia as an independent state, he set up a branch office of I.C.I. (Export) Ltd. in Djakarta, of which he was appointed manager and subsequently local director. He retired from the Company in 1950 to New Zealand where he took up farming.

Our greatest sympathy goes to his wife and two children.

September IN THE GARDEN

CUTTINGS FROM GERANIUMS

By PERCY THROWER

WHILE the summer began very dry and we had hopes of another warm, sunny time, it developed into the typical English summer, and many parts have had excessive rain. In spite of this, autumn tints are already beginning to show on the hedgerows. Autumn colours are usually bright, and this autumn should be as colourful as ever.

In the garden too we are beginning to see the first signs of autumn. In the borders yellows and bronzes predominate, and these will shortly be relieved by the pink, purple and blue of the michaelmas daisies. The coloured leaves are beginning to show themselves on the trees and shrubs, and even in the vegetable garden the carrot foliage, which may be due to weather conditions, or it could be because of the carrot fly grub at their roots, is bright scarlet and yellow.

These changing colours remind us gardeners that it is time to begin preparations for next year. There are various plants and crops which have to be brought inside, either to keep them safe for planting out next year, or so that our larder is well stocked for the winter.

Geraniums this year proved their worth, standing up to the varying kinds of weather as they have done and continuing to flower throughout the whole summer. To lift and

keep the old plants through the winter means taking up a lot of valuable greenhouse space, garage space or room space. Wherever it may be, it must be a place where they will be perfectly safe from frost.

Cuttings taken now should form their new roots before the bad weather begins. These will need much less room than the old plants, and they will grow into good specimens by planting-out time in May or early June of next year. Shoots four or five inches long make the ideal cuttings, and those sufficiently mature to produce buds and flowers are mature enough to form roots of their own.

After taking off the shoot of the plant—and it will be possible to get three, four or more from each plant—cut straight across with a sharp knife or a razor blade close to the bottom leaf joint. Trim off the bottom three or four leaves close to the stem so that there will be two to three inches of clear stem to go under the soil. The cuttings will root in either flower pots or shallow wooden trays; the latter must have drainage at the base.

Fill the pots or boxes with a mixture of equal parts soil, peat and coarse sand, and press it in firmly. Make the holes with a piece of pointed stick, which the gardener will call a dibber. These holes can be three inches apart in the boxes or

round the inside edge of the flower pot. Round the side of a four-inch flower pot there will be room for four cuttings. Make sure that each cutting reaches the bottom of the hole and press the soil firmly round it. They will need enough water to soak the soil right through and no more until it feels really dry again.

The pots or boxes can be stood outside under the shelter of a wall for a week or two, but they must be brought inside if frost threatens; or they can be stood in the garden frame. During the winter the place for them is in a greenhouse with sufficient heat only to keep out the frost, or on a window sill of a cool room. They will have to be moved back from the window on frosty nights. In March or April each plant can be potted into a flower pot of its own.

Most people will have, or will know, the bright scarlet variety of geranium, Paul Crampel, but there are other varieties which I think are even better. If you have not already got them, try to get a few cuttings of the bright double red Gustav Emich, one which has come to the fore of recent years. I like the double salmon pink King of Denmark, and the small free-flowering salmon pink Bartleman. I like too the double deep crimson Double Jacoby, a colour that adds richness to the garden.

Billingham's John Metcalf wins a place as an

OLYMPIC HURDLER

The name of Billingham Division's John Metcalf appeared last month in the list of British athletes picked to take part in the Olympics. We asked Denzil Batchelor to interview Metcalf before he left for Rome. Here is his report.

SHEER perseverance is the secret of John Metcalf's success in athletics. Twenty-six-year-old John runs for Britain in the 400 metres intermediate hurdles in the Olympic Games; the reward of ten years of hard striving and relentless determination.

Off the track, Metcalf is a Packing Manager at Billingham, responsible for his packing shed and silos and for despatching fertilizers to customers: the type of job which might well lead to a post in personnel management. Neither his father nor his French-Swiss mother—nor, if it comes to that, either of his sisters—has achieved major sporting distinctions, though one of his sisters did play tennis for Derbyshire as a Junior. John is the first of his family to have ambitions in this field, and he came to build up his athletic career slowly, achievement by achievement—with no initial transfiguring glimpse of the final goal to inspire him up the long, exacting road.

He first found he could run at Chesterfield Grammar School; and even then it was not till he was a senior that he realised he could be outstanding. Then he set himself his first goal—and achieved it. Specialising in the high hurdles, he became Victor Ludorum, and went on to finish second in the All England Schools championships.

That was (so to speak) the first hurdle. The next ambition was to get a blue. Before he could aim at this, however, there were two years' National Service in the Air Force, where he became a Pilot Officer, served for thirteen months in Germany, and won the high hurdles championship of the Second Tactical Air Force.

So far he had never been coached by a professional. Things were to change when he arrived at Pembroke College, Oxford, where he duly took Second Class Honours in Law in the intervals of running for three years in the Inter-University sports. At Oxford he was coached for a year by Franz Stampfl, who handled Bannister and Chataway, and (though Metcalf considered him more at home with middle-distance performers than with sprin-

ters) succeeded in cutting a second off his time for the furlong dash. Metcalf found Stampfl's advice realistic and sensible: "Go out and run," was what it amounted to. "The more you run, the better your body will adapt itself to its most economical use for the job in hand."

He had further training from Kenneth Bone, whose quiet encouragement he found stimulating. He has had no coach since he left Oxford, and I don't think he considers coaching (except for one formative season) very important for a runner; its value to a competitor in some highly technical field event is another matter.

It was at Oxford that Metcalf really came of age as an athlete: and, curiously enough, for most of his time at the University he concentrated on sprinting rather than on hurdling. As a freshman he was second in both the 100 and the 220 yards. In his second year he won the low hurdles and was third in the shorter sprint. But his third year was lit up with a blaze of triumph. He was picked for the first time not as first but as second string for the 100 yards—and won it, with John Young well behind him. This was, he admits with a modest grin, the race he enjoyed most in life. Then he crowned his triumph by winning the low hurdles in 23.8 seconds, which is still a University match record. To top the lot, he was awarded the Drake Digby Cup for the best performance at the meeting.

The Victor Ludorum's Cup at school . . . a blue, and then triumph in the University sports . . . John Metcalf was skimming the hurdles of ambition surely enough. In national and international competition it hasn't been such plain sailing. There being no 220 yards race over two-foot-six inch hurdles in the Olympics, Metcalf's place in the highest field has had to be earned, not in his best event, but in the 400 metres race over three-foot hurdles. Since 1956 he has been second or third in every A.A.A. championship 440 yards race: but he has never won the event. This year he should have won it, but—just as in



the England-France match in August—he was beaten on the post by M. G. Boyes when easing up, under the impression he had the race "in the bag."

"That's twice he's beaten me like that," he told me bitterly next day, "I've been kicking myself ever since. Oh well, he may beat me again—but never in that way." His best time for the 400 metres hurdles is 51.9 seconds: three-tenths of a second inside the Olympic qualifying time.

He has competed abroad for the Oxford and Cambridge team in Canada and the United States—he won the Canadian 100 yards in 1957—and for his country in France, Germany, Italy, Poland, Czechoslovakia, and in most Scandinavian countries. More often than not he has finished second or third rather than first. Well, it's worth remembering that this was Chris Brasher's habit too—

and look what happened to him in the Olympic Games!

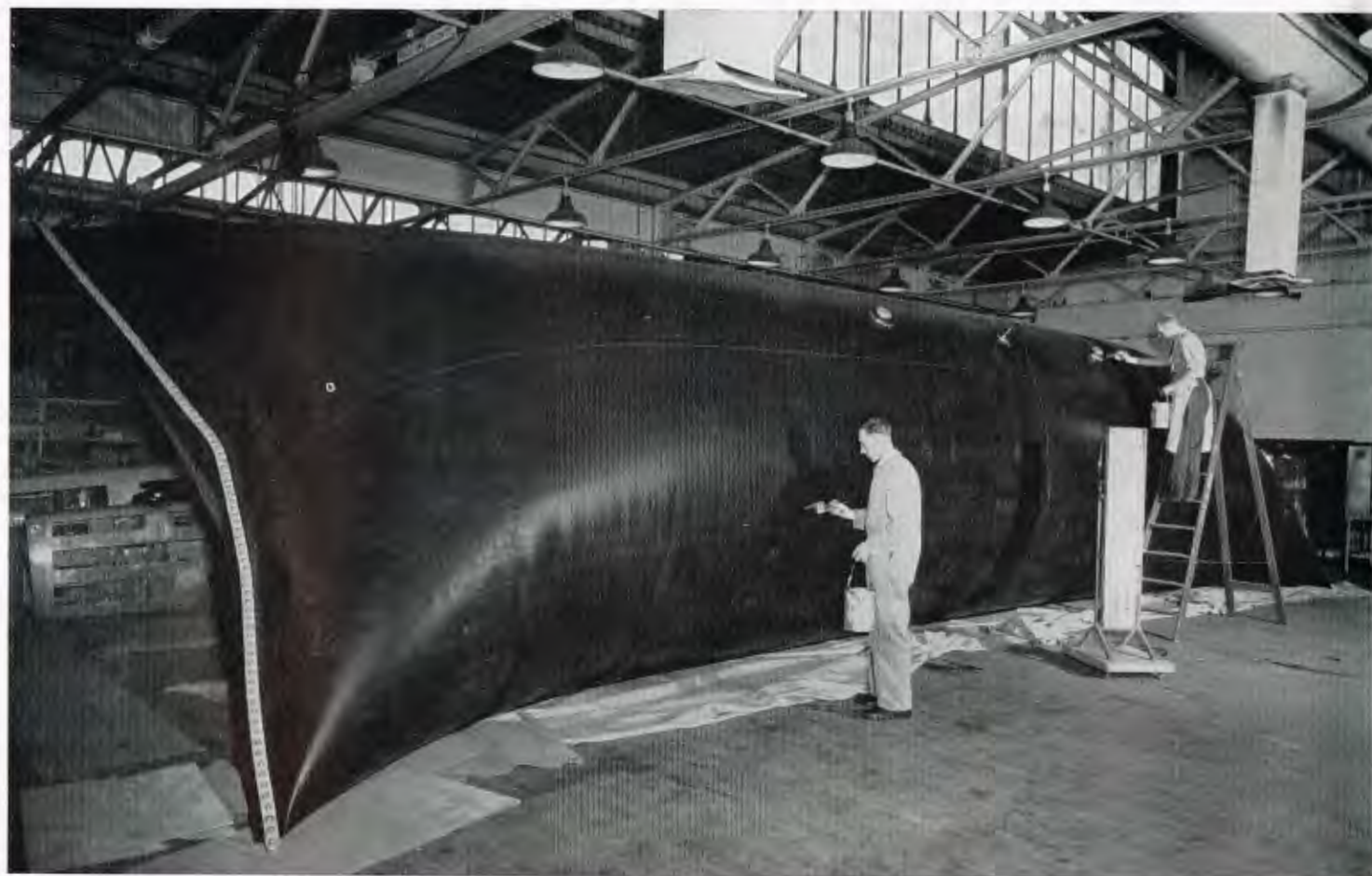
Metcalf trains four or five days a week throughout the year. He's a non-smoker, but not a teetotaller. "I won one of the best races of my life for England against Poland after drinking a bottle of white wine the night before," he murmurs.

He plans to retire from athletics this year, and take up other sports; golf and rugby. He has already frequently played wing three-quarter for Billingham Synthonia. "My favourite place is on the right wing—so I usually get picked on the left." And the man who is forced to hurdle in 400 metres races because there aren't any on the programme at 200 metres, smiles almost knowingly.

If John Metcalf is beaten in the Olympic Games it won't be for lack of determination or perseverance.

NEWS IN PICTURES

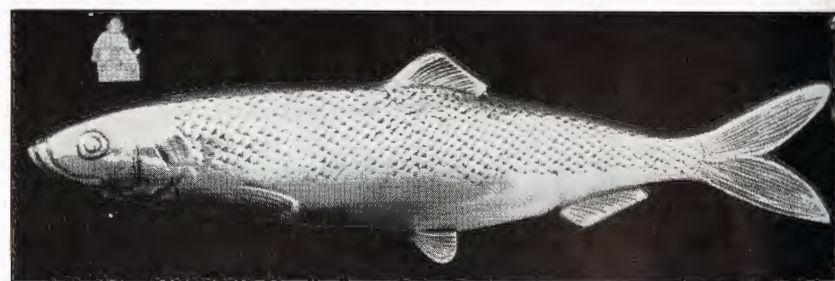
Home and Overseas



Jumbo tanks. These giant flexible 'Portolite' tanks, made by Marston Excelsior Limited at Wolverhampton, can be used for the storage or transport of 10,000 gallons of liquids—everything from fuel to fruit juices. Here one is being leak tested before despatch. The work of Marston's, one of I.C.I.'s subsidiary companies, is the subject of this month's main article on page 292



African Violets is "Vogue" magazine's colour choice for the autumn. It was featured in a big way in their August issue. Real African violets from Plant Protection's greenhouses at Fernhurst were photographed for the cover picture



'Terylene' fishing nets were used by the Norwegian fishing boat *Veslegutt*, which was awarded one of the two silver herrings given annually by Eriksens Oliekloedefabrik, fisherman's oilskin manufacturers, for the biggest catches by purse seines and drift nets



Alkali Division's first youth supervisor, Mr. Tom Holland, retired recently after 47 years' service. He started at Winnington in 1912 as a rivet lad. Mr. Holland has taken charge of the children's summer camps for needy children since the early 1930s and is currently chairman of Winnington Club, which he joined as a boy of 14



Trinidad has a new paint factory built by I.C.I. Paints (West Indies) Ltd. Construction, which started in January, has now been completed and production trials have been under way for the past month. With the exception of the manager and his two assistants, all the factory personnel have been engaged locally. *Above:* A view of the site. *Right:* At work in a laboratory



Mosta Church, Malta. This lovely building, completed in 1860, recently had its dome—the third largest in Europe—re-roofed in I.C.I. copper by Messrs. F. Braby & Co. In the sacristy is a bomb. This bomb, which crashed through the dome during the blitz, was a main cause for the repair. It ricocheted twice against the wall, crossing the church without exploding. At the time there was a congregation of 300, but no one was injured



When Mr. S. P. Chambers, I.C.I. Chairman (left), visited Canada recently, he toured some of the C-I-L factories. Here Miss Georgette Blanchard of Brownsburg Ammunition Plant describes her work to him. With Mr. Chambers are Mr. K. W. MacGibbon, works manager, and Mr. W. T. D. Ross (right), vice-president of C-I-L



Life Guard David Temke, a 20-year-old Wilton apprentice, turns one of his hobbies—swimming—to good account. In his spare time he watches over unwary bathers from the beaches at Marske and Saltburn



One of the fifteen exhibits at the Royal Society's tercentenary celebrations exhibition was organised by Dr. P. W. Brian of I.C.I.'s Akers Research Laboratories in collaboration with Professor H. E. Street of University College, Swansea and Professor R. L. Wain of Wye College. The theme of the exhibit was the physiological and biochemical aspects of plant growth. Dr. Brian, one of I.C.I.'s three F.R.S.'s is widely known for his study of gibberellic acid



Fisherman's tale. Mr. George Stephenson of Plastics Division and his daughter Linda with a haul of tope. Mr. Stephenson landed three fish with a 7d. garden cane and a nylon line. Weighing some 27lb., each fish took about half an hour to land



Winning the Lancashire Area finals for the Apprentice of the Year Award, Craft Section, Henry Old, 21-year-old Plastics Division instrument apprentice, qualified as one of the nine finalists from England, Scotland and Wales. Although not successful at the final interviews, he received a medal for reaching the finals



Two of five diesel hydraulic locomotives ordered by General Chemicals Division arrived recently at Castner-Kellner Works, Runcorn. Each is rated at 220 h.p. and any pair of locos can be coupled to be operated by one driver. This is believed to be the first application in Britain of tandem coupling for diesel hydraulic locomotives



All eight Wilton Works' chauffeurs have qualified for membership of the Institute of Advanced Motorists. In addition, each holds a number of safe driving awards. Back row (l-r): G. Pattison, C. Brown, F. Porton. Front row: K. Surtees, L. B. Tomlinson, J. Reason and F. A. Ferguson. Inset: (right) R. P. Bellis; (left) the Institute's lapel badge which each chauffeur is wearing



An amazingly high standard was the judges' verdict at the National Civil Defence Competition held in Leeds recently. And it was the Fibres Division team who, in their first competition, brought home the winners' cup



Autumn fashions from Paris include this three-piece outfit by Guy Laroche in brown and black houndstooth check. It is made in 'Crimplene,' the new 'Terylene' jersey fabric which is well to the fore as a material chosen by the Paris coutouriers for their autumn collections. The fabric is by Jerseycraft of Huddersfield. Other 'Terylene' fashions from Paris are reported on page 299



Delighted smiles greeted Mrs. H. M. Myers when she presented the trophy to the youthful winning team in Metals Division's annual all-women teams' First Aid Contest. The Summerfield Works team (l-r): Mrs. C. Bradley, Miss P. Woodcock, Miss J. Millward, Miss J. Farr with their trainer Mr. J. E. Marriott



Guide dog statuette. This model was presented to the Engineering Works, Wilton in acknowledgment of the £200 raised through their social activities in recent months, for the Guide Dogs for the Blind movement



"Diplomats." Barry Turner (left) and Brian Hearfield congratulate each other on being the first two of the original direct entrants into the Wilton Student Apprentice Scheme to obtain their Higher National Diploma (Mechanical). This follows five years of comprehensive training and study at Wilton and at technical college



The British Legion's top award, the Gold Badge, was recently presented to Mr. George Wood (right) of Wilton Works, by Major R. J. L. Jackson, Chairman of the North Riding British Legion

The Fleck Primary School in Gomia has been given an endowment by Sir Alexander Fleck to provide a number of prizes for the children of the Indian personnel of Indian Explosives Ltd. Here some of the children gather in front of the temporary building. The permanent school is due to be completed early next year



Two-ton Tessie O'Shea appearing at a Johannesburg night club, demonstrates the strength of a soft-top suitcase made from A.E. & C.I. 'Vynide.' In Britain, 'Vynide' is made by I.C.I. (Hyde)



Seeing for herself. Miss M. Ablett, Wilton Works Librarian, donned the correct togs and plunged into a "cold" cyclone furnace of a boiler at Wilton Power Station. Asked recently to translate some papers in German about cyclone-fired boilers, she felt that first hand knowledge would be useful



Amateur weight-lifter Miss Ruth Kirk of Wilton Works demonstrates the correct way to lift heavy objects seen on the Wilton site, while Mr. R. Beckton shows the wrong way, during this year's second Wilton safety campaign

THE STUFF TO GIVE THE STAPH

Contributed by Pharmaceuticals Division

The so-called "staph menace" is not just a journalistic scare; it is a very real hospital problem. With the discovery that the breeding ground for penicillin-resistant staphylococcal germs is the nose, I.C.I. has produced an effective preventive treatment.

YOU have probably read in the newspapers from time to time stories about the "staph" menace—accounts of how hospital wards and maternity units have had to be closed down for weeks at a time because staphylococcal infection was running riot among newborn babies and their mothers and patients recovering from operations.

These are not journalistic scares: in thousands of hospitals throughout the world the staphylococcus problem has become a very real and serious one—so serious, in fact, that there have even been high-level international conferences to discuss it. In the light of all this there is likely to be very wide interest in a new Pharmaceuticals Division product that promises to be an important weapon in the fight against the "staph" menace."

Before saying anything more about this, let's have a closer look at the problem. First of all, *Staphylococcus aureus* is the name given to a special type of germ met with in pus and septic tissue. We have all been infected by these germs at some time: minor pustules, boils, carbuncles, styes, conjunctivitis, and scratches and cuts that have turned septic all harbour staphylococci. Even in healthy people they can be found on the hands and skin and, above all, in the front part of the nose; and nearly all chronic sufferers from boils, styes and so on carry staphylococci in their noses.

Evil Reputation

Although "staph" infections in the family circle are annoying, they are very seldom serious. It is in hospital wards, where there are open wounds to prey on, that staphylococci have earned their evil reputation. They can not only delay the healing of wounds, but sometimes give rise to conditions more serious than the one the patient was admitted for—such as osteomyelitis and a type

of pneumonia. This staphylococcal pneumonia, doctors report, is on the increase.

The most sinister thing about these germs is their ability to acquire resistance to antibiotics. The cure for "staph" infections used to be prompt and massive doses of an antibiotic such as penicillin—and in fact some strains of the germ can still be beaten in this way. But about five years ago an antibiotic-resistant strain of *Staphylococcus aureus* began to make its presence felt in communities such as hospitals. What had happened was that some "staph" germs in patients being treated with antibiotics for some other infection had failed to succumb and had given rise to new generations of germs with this same ability to resist antibiotics.

Hospital Tests

Tests in hospitals where these resistant strains have been encountered show that they survive and multiply in the noses of patients and staff as well as in septic lesions, providing a reservoir of germs that can contaminate the skin and clothing of everyone in the hospital. And it doesn't need much knowledge of hospital procedure to see that from skin and clothing the germs can easily migrate to clean operation wounds, setting up an infection and delaying healing.

That is the problem in a nutshell. What is the answer? Various approaches have been tried, without very much success. It is usually still possible to eradicate staphylococcal infections with antibiotics—but first the hospital pathologist must isolate the germ, grow a colony of them, and find out which (if any) of the numerous antibiotics will attack them. If none of the established drugs will work he may have to use an entirely new one, or a combination of several, such as is contained in I.C.I.'s 'Sulmezil V.'

Obviously, treatment of the established infection has its difficulties. How much better it would be if we could destroy the so-called "staph" before it reached the patient! This is where the I.C.I. antiseptics come into the picture: both 'Hibitane' and 'Savlon' Liquid Antiseptic kill the germs which get on to the various objects found in a hospital.

The Nasal Carrier

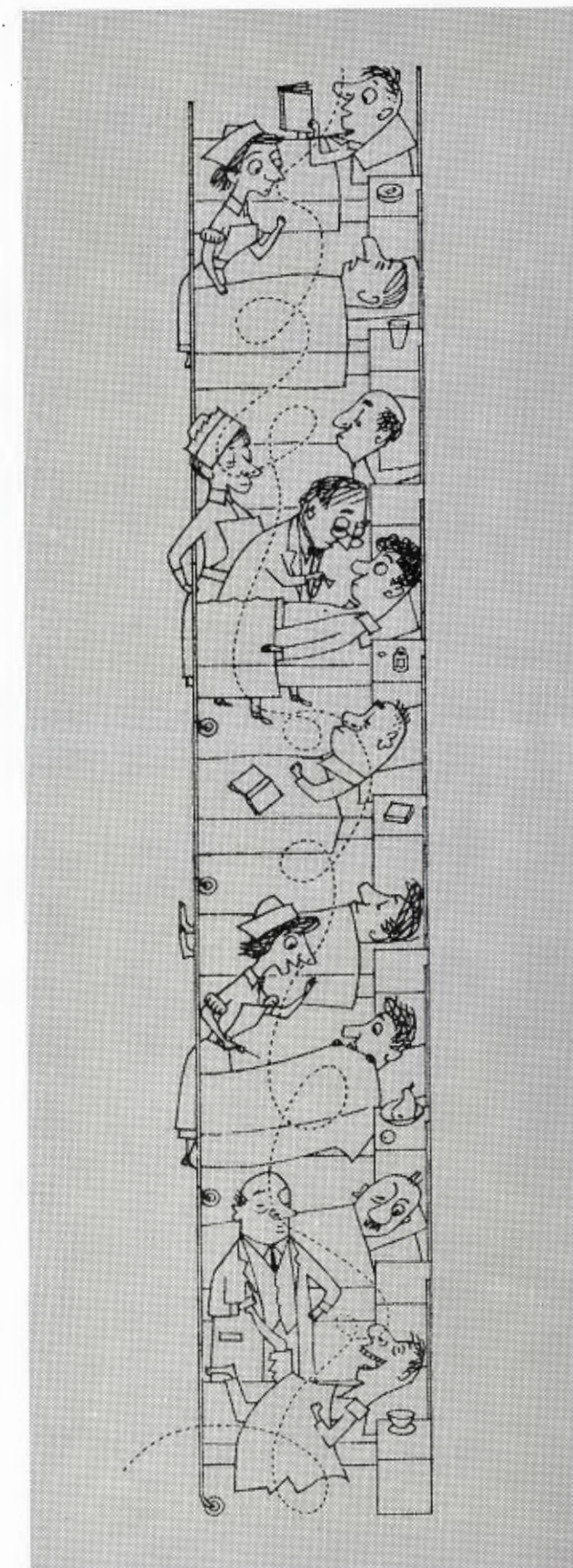
Quite recently it has been established that noses are common breeding grounds for the virulent forms of staphylococci. If somebody is a nasal carrier he may show no sign of infection or illness, but every time he sneezes or blows his nose he transfers several thousand staphylococci to his surroundings—and, of course, his hands and handkerchief will be heavily contaminated also. If these nasal colonies of staphylococci can be wiped out, quite plainly the "staph" menace" loses much of its bite.

This again is where Pharmaceuticals Division comes into the picture. It has just made available to doctors an antibacterial cream that can be applied to the noses of hospital patients twice daily to prevent the "staphs" from multiplying. The treatment is so simple and pleasant that the patients can carry it out for themselves. This cream has given better results than anything tried so far in the fight against the "staph," for two reasons. Firstly, because it contains an antibiotic, neomycin, that is not used for general treatment and that hardly ever causes bacterial resistance. Secondly, because it contains the antiseptic chlorhexidine, otherwise known as 'Hibitane'—the powerful I.C.I. germ-killer that makes 'Savlon' Throat Lozenges and Antiseptic Liquid so effective. It has already been proved that bacteria cannot become resistant to this antiseptic as they can to so many antiseptics and antibiotics, so that the 'Hibitane' can reinforce the action of the neomycin without any danger of fostering resistant strains of "staph."

Costly Epidemics Avoided

Combined with certain other precautions—disinfection of blankets, crockery and utensils, for example, the use of vacuum cleaners instead of brushes in the wards, and the use by nurses of an antiseptic hand cream containing chlorhexidine—this new nasal cream is providing hospital authorities with a means of fighting staphylococcal infection. It may save not only a great deal of distress but an appreciable amount of money, for these hospital epidemics are extremely costly to the National Health Service.

It might be as well to add that, although this nasal cream can be freely prescribed under the Health Service, you cannot buy it without a doctor's prescription.



A VERY SMALL WORLD

By Dorothy Thomas

How do you set about analysing a specimen weighing only one ten-thousandth of an ounce? Such as a minute scraping from a priceless antique, or a tiny discoloured spot on a piece of metal? The answer is a very special laboratory in an Alice-in-Wonderland world.

MOST people are fascinated by miniatures, whether their tastes run to masterpieces of art or matchbox models. That is why one section of Metals Division Research Department has an unfailing appeal for the most casual visitor.

This is the Micro-analysis Laboratory, where almost nothing except the staff is normal size and all equipment perfectly familiar in shape and function, seems to be seen through the wrong end of a telescope. *A hair-fine tube is used to transfer liquid into minuscule test tubes, crucibles no larger than peas stand on a doll's house hotplate, a platinum spoon the size of a baby's finger-nail warms over a tiny Bunsen burner.*

Needless to say, this Alice in Wonderland set-up is not there for fun. It is an essential and normal feature of modern analytical chemistry, needed because specimens for analysis are sometimes very small, weighing perhaps one ten-thousandth of an ounce. It is easy to see how this comes about in biological or pathological work, but less so, perhaps, in the domestic sphere of Metals Division, handling metal in very weighty masses. The explanation is that micro-analysis is not used by the Division for routine work; it is reserved for exceptional situations which arise even in the best-regulated metal-producing circles.

The pieces of metal arriving in the Micro-analysis Laboratory from the mills may be quite large—a length of zirconium tubing, perhaps, or a sizable sheet of copper or aluminium. But the part which concerns the analyst is still microscopically small, because the focus of interest is not the metal itself but the mysterious black scale or rash of white spots on its surface—even, perhaps, a faint stain.

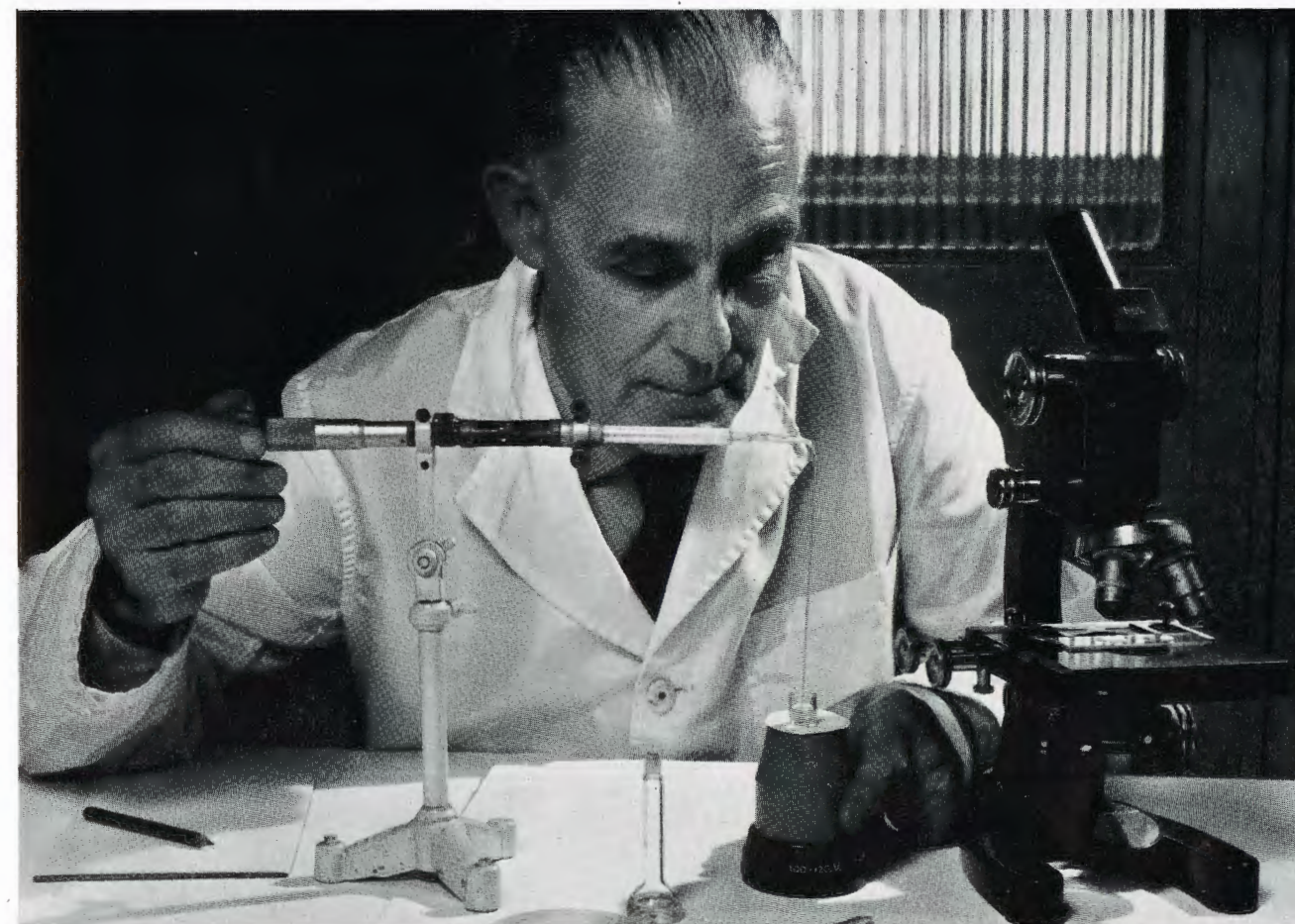
Specimens reaching the laboratory from “outside” may be equally small but for different reasons. The problem

may be to identify a foreign body removed from a human eye, or to determine the composition of a comparatively large piece of metal when only a fractional amount can be spared for analysis. *If, for instance, an archaeologist unearths a valuable antique, he cannot allow it to be subjected to treatment which might deface or destroy it; the most the analyst can hope for is permission to drill out a tiny sample or remove a scraping from its surface.*

Let us take a typical example, where the analyst is presented with a short length of metal tubing and is asked to identify the few rust-coloured scales freckling its surface. Like any good detective, he first examines the evidence, including any available “historical” data. Clearly, if he knows the composition of the underlying metal, the processes it has been through, the conditions in which it has been used or stored, experience will at once suggest certain profitable lines for further exploration.

On the principle of preserving the evidence as long as possible, the next stage is to submit the piece of tube to microscopic examination and other non-destructive procedures. Only when he is satisfied that visual examination can tell him nothing more does the analyst initiate work which must inevitably change the appearance of some part of the specimen. In this instance, because the unknown substance is a solid, he may be able to detach it with that familiar instrument of torture, a fine dental drill. *The resulting sample would balance safely on the head of a pin and weigh about one ten-thousandth of an ounce.* Mounted on a slide, the sample is again subjected to microscopic examination under the expert eye.

From this point onwards the analytical techniques adopted will depend on several factors, not least on the type of information required. It is often not enough to



The chief scientist of the Micro-analysis Laboratory at Metals Division, Mr. H. J. Saint, is here using a delicate instrument which enables him to add a minute and accurately measured quantity of one liquid to another.

say “this is rubber” or “this is a mixture of certain elements”; it may be necessary to state, with equal authority and accuracy, the amount of each element in the mixture.

Broadly speaking, normal analytical routines can be adapted to micro-scale operations. The typical sample of tube scale is first dissolved, then systematically analysed by treating the solution successively with selected chemicals (or reagents) and separating out the insoluble substances in a microcentrifuge.

When it is necessary to determine the amount of each element present, the separated sample is initially weighed on a microbalance, which weighs accurately down to one twenty-millionth part of an ounce; insoluble products formed in the course of the analysis are also weighed. If the quantities involved are too small to weigh, coloured compounds of the element, in the form of spots on filter paper, may be compared with standards, when quantities as small as three hundred-millionths of an ounce can be determined.

Impressive as all this may be to the layman, it still has

less of an alchemistic aura than certain other aspects of micro-analysis; for example, chromatography, in which a single drop of solution containing the unknown elements is transformed into bands of colour on a strip of absorbent paper. The whole operation, remember, is on such a scale that it is akin to taking a pinch of sand and identifying each separate grain. Some indication of the precision achieved by microtechniques in quantitative analysis may be gauged from the determination of one ten-millionth of a gram of nickel in a mixture of up to 17 elements, all dissolved in a single drop of solution.

Work done in the Witton laboratory is not restricted to samples of metal from the Division's mills. Quite often specimens come in from customers who use our products; here it is particularly important to establish whether failure or deterioration in the metal arises from a “built-in” fault or from some external cause. *Most stimulating of all, perhaps, are the rare archaeological specimens that come our way, ranging from a portion of the Dead Sea Scrolls to early Bronze Age implements, where the exercise was to deduce metallurgical practices used over 6000 years ago.*

TRAGEDY AT BATURA

Ascent and Disaster

By John I. Edwards

Photos by the author, H. G. Stephenson and Keith Warburton

Did they or did they not get to the top? No one will ever know. But one thing is certain. This moving account of the expedition's last days, as seen through the eyes of its only two survivors and told with studied understatement, will live long in the memory of all who read it.

BETWEEN Camp II and the plateau was the "serac line," the most formidable obstacle on the icefall. A great forest of ice pinnacles and crevasses formed as the smooth sheet of the plateau snowfield tipped over some rocky precipice far under the snow and started the long descent to the glacier. The seracs were liable to come crashing down without warning, and the most dangerous time was just after sunrise, when the thunder of falling ice was almost continuous.

Albert Hirschbichler and Harry Stephenson marked a route through this one morning with long strands of red wool. With a superb piece of ice climbing they fixed a rope ladder to the top of a 60 ft. smooth, overhanging ice wall. The rest of us were engaged in ferrying all the stores up from Camp II to a depot camp at the lower edge of the seracs ready for an early dash through. The following morning we were up very early and soon had the stores on their way to the bottom of the ice wall. Albert and I went up the rope ladder, which was a long and exhausting business, then we hauled up the equipment and the other members. I was not encouraged when



Jamil Sherjan, one of the two survivors, applies lip-salve against sunburn while resting at Camp II. **Keith Warburton** eats nuts and dried fruit (lunch).

a neighbouring serac collapsed as I was half-way up the ladder.

By 8 o'clock everything was on top of the serac, with only a short ice climb between us and the plateau where we were to put Camp III. As we sat down to a rather early lunch of glucose, chocolate, raisins and snow we felt very happy. We had overcome perhaps the greatest icefall in the Himalayas, about three times the size of that on Everest. The way ahead looked hard but not as hard as the route behind us, and we felt confident that we had turned the key to Batura—it only remained to open the door.

Our first impression of the plateau was of wind. A hard, bitter wind was driving clouds of sharp ice crystals into our burnt faces, and we stumbled onwards with our heads bent against it. The surface was a sea of smooth ice hummocks, more like the Arctic than the Himalayas. In the lee of one of the hummocks, about two miles from the top of the icefall, we dug in Camp III.

We now had thirty days' food, paraffin and equipment for five men at a height of over 18,000 ft. It was time for



Albert Hirschbichler route-finding on the Batura icefall between Camps I and II



Yaks and porters resting at Yashpirt. Across the surface moraine of the Batura Glacier is the icefall and the summit of Batura (with a small cloud).

Jimmy (Jamil Sherjan) and I, the two honorary porters, to leave for base camp and the delayed survey work.

As we waved goodbye to the small but cheerful band busy digging in, Keith Warburton called "See you in two weeks if all goes well!" A few hundred yards, and the black dots were hidden by the ice hummocks when we looked back. We never saw them again.

By about 6.30 Jimmy and I had got back to Camp II, where a tent, a stove, and some food had been left in case

of an emergency descent. Conditions on the icefall were too unstable to leave any camps there permanently occupied, so that it was inevitable that the climbing party would be cut off during their assault. We had rejected the idea of wireless, as it was impossible to justify the great weight of equipment and batteries. The only information it could supply would be the Pakistan weather forecasts, which are less reliable than a barometer on the spot.

At Camp II we found that the stove refused to work, so we resigned ourselves to cold stewed steak for supper. The main hardship was the lack of anything to drink.

The following day we went on down to Camp I, where we collected all the remaining stores and equipment, and put the two ladders in a previously arranged spot in the calmest part of the icefall where the climbers would use them to get off the icefall on their way down.

Our own way down without the ladders was now rather difficult, and we had to climb back up the icefall for several hundred feet until we could find a way through the maze of seracs and crevasses at the side on to the relatively smooth slopes of ice left by old avalanches. We tried several routes before we found one which looked promising. Even this was not without its difficulties, and the first of these was a series of crevasses very close together. Crossing these, Jimmy slipped and I heard a muffled shout of "Belay!" as he disappeared over the edge. My ice axe was already fixed to the rope between us, and I drove it into the hard-packed snow just before the rope became tight. Jimmy was uninjured and had only fallen about 15 ft. before coming to the end of the rope, so it did not take long to haul him out.

I Lose my Footing

A little further on I lost my footing on an ice slope and was just sliding into a crevasse, braking furiously with my ice-axe, when the rope sprang taut with Jimmy giving me a belay. My wide-brimmed hat which had served to keep off the sun came off and disappeared into the blue depths of the crevasse. I climbed slowly back up the slope and we resumed our journey to the comparative safety of the side of the icefall, where we continued the descent across the old avalanche slopes. We were cutting steps across one of the steep ice slopes when we heard a dull rumble far above us. Before we looked up we knew what it was—a stone fall.

A great mass of loose rock had been dislodged far above us and was now rushing down the steep ice slope. At first we could not see the rocks, just the tiny puffs of powdered snow, like artillery fire, as they bounced. It was obvious that we were directly in line with the fall. We were roped together, balanced in tiny footholds we had cut in the smooth ice, which fell away beneath us to the maelstrom of twisted seracs below. There was little we could do except press ourselves against the ice and try to become as small as possible.

I looked up just before the fall reached us and saw a large rock bounce a few feet above me, then I felt a sharp blow as it struck my rucksack. A few more close thuds and it was over, with Jimmy and I both unhurt. It had been a most unpleasant few seconds.

We continued the traverse in a rather subdued frame of mind and eventually reached the cairn at the beginning of

the long rock descent where we had left our other boots. The high-altitude boots and crampons were exchanged for our normal climbing boots and we descended the rock face. At about 6 o'clock we stumbled into base camp very weary indeed. It had been a full day.

Life at Base Camp

Life at base camp was quite uneventful for the next few days as Jimmy and I busied ourselves erecting cairns to act as reference points and putting out lines of orange flags for speed measurement across the bottom of the icefall in holes drilled with a specially made icedrill. The frequent avalanches often disturbed the markers, and we had to give up some of the ablation measurements we had hoped to carry out.

On 2nd July, after the barometer had been falling steadily for 24 hours, it started to rain. This soon turned to snow, and Jimmy and I stocked up the mess tent ready for a long siege. We did not leave the tent again until 5th July, when we dug our way out through four feet of snow. At one stage the tent was collapsing regularly every two hours because of the weight of snow on top. We would bang the canvas until the snow settled at the side and the tent would then spring upright again.

Time passed slowly as we lay in our damp sleeping bags reading, writing, or perhaps just watching a drop of condensation form at the top of the tent and slowly creep down the walls. We often thought of the climbers, waiting at 22,000 ft. or caught perhaps on their way down after a successful ascent. We were not worried, as they had all survived worse things before.

Watery Sunshine

Eventually the barometer climbed back from the depths, the snow stopped and we emerged blinking into watery sunshine.

A few days later we were visited by Shah Mohammed, the local hunter, who came to sell us part of an ibex he had just killed. He told us that four days before the bad weather he had been hunting on the other side of the valley. Early in the morning he had trained his binoculars on the summit of Batura, and on a shoulder, some 1500 ft. from the summit, he had seen two men climbing. He watched for three hours and said that they were carrying large packs. Shah Mohammed had superb eyesight, as we had found on the approach march, and we saw no reason to doubt his story. He indicated the spot on a sketch I made of the summit which seemed to tie in well with the route and timing we had discussed before leaving the climbers. The two were probably going to erect Camp VI at 24,000 ft., which would explain the large packs. On the following day they would have gone for the summit, and as the weather had been perfect for the next four days it seemed to be almost certain that they had reached the top.



Paying off coolies at base camp. Richard Knight works out pay, Keith Warburton hands over money, Martin Gunnel distributes cigarettes, Jamil Sherjan standing.

The routine at base camp was broken about every five days by the welcome arrival of the *dak* or mail runner, and from him we learned that great damage had been caused in Hunza by the bad weather, a sudden change in the path of the monsoon, which had not happened for fifty years.

We spent long periods surveying away from camp, and when we returned from one of these on 18th July we were rather surprised to find that the climbers had not returned. There were many possible explanations, however, and we were not particularly worried.

The following day it clouded over and started to snow in the region of Camp III. The climbers would not be able to descend in this, and we settled down to wait as the cloud cover descended almost to base camp.

The conditions on the icefall were deteriorating daily, as Jimmy and I had found when we made a return trip to Camp I to rescue the equipment there. The descent with loads of 70–80 lb. had been most difficult. The new snow

was soft and in places waist deep, disguising crevasses under a smooth, even blanket. Jimmy had slipped into a deep crevasse because of this, and had been suspended by the shoulder straps of his rucksack as the ladder he was carrying jammed across the top of the crevasse. Extricating him from this predicament had proved an interesting problem, and we knew that these difficulties were becoming greater with the advance of the season; but while the weather remained bad nothing could be done.

The cloud lifted for a few hours on the 22nd and we went as far as we could up the rocks overlooking the icefall, but a long search with binoculars failed to reveal any sure sign of a camp or movement.

July 26th dawned bright and clear, and we spent the whole day on the glacier watching the top serac line for signs of movement. "They must surely move on to the icefall today," we thought; but there was only the still, silent mass of tumbled ice to be seen.

We would have to go up if we could, but we had no

high-altitude tent or stove at the base camp. Everything had gone up with the climbers. On 27th July I set out for Pasu to get on the telephone there and see what help I could get from any of the other expeditions in the area. I travelled with Buri, our mail runner, and we travelled fast. The journey from Pasu to base camp had taken us six days; but now, although much of the path had been washed away by the monsoon, we did the return journey in thirteen hours. It was quite dark when I limped into Pasu; but I managed to rouse the headman or *lambadar*, and I was soon talking to the Mir on the telephone, a primitive army instrument which links all the villages from Gilgit to the frontier post, Misgar.

Bureaucratic Difficulties

The Mir referred my request for assistance to the Pakistan Political Agent at Gilgit, who rang me back to say that no one could be allowed to come to my assistance on "security grounds." As an afterthought he added that permission might be obtained from Karachi, but this would undoubtedly take three weeks.

Ignoring this further example of bureaucracy gone mad I tried, with the Mir's assistance, to get in touch with the other expeditions. The Germans were out of reach of the telephone, so I sent them a letter by runner and the Mir promised to put me in touch with the Swiss and Italian Karakoram expeditions the following morning.

After sending a letter and a telegram to our expedition's home agent, I retired to the rest house for the night.

In the morning I woke up covered in bites, as I had forgotten my insect repellent. I also found that my left foot was so swollen and painful that I could not get my boot on. The *lambadar* produced a sharp and extremely dirty knife and was obviously in favour of immediate surgery, but I demurred.

Remarkable Feat

The Mir came on the phone about 9 a.m. I spoke to the doctor of the Italian expedition who was at the village of Nagar, across the river from Hunza. He could do nothing, as he was alone and his equipment had not yet arrived in Nagar. I then spoke to Madame Lambert, wife of the leader of the Swiss expedition, Raymond Lambert. The Swiss were in some difficulty themselves at the time, but they very kindly lent me the tent and equipment I needed. The Mir of Hunza arranged for a relay of runners throughout the night, and I received the equipment the following morning—a remarkable feat of portering.

My foot had subsided a little by this time, and with some bandaging I was able to get the boot on and left immediately for base camp with two porters to carry the gear. I was obliged to go rather more slowly now, and the return journey took a day and a half.

At 3 a.m. on the morning after I reached base camp Jimmy and I left for our attempt on the icefall.

The sun reached us as we got to the end of the rock climb and we were just putting on our high-altitude boots for the snow. Nothing was to be seen of our old route, and the smooth ice at the side had largely disappeared, leaving us the choice of smooth, downward-sloping rock slabs or a sea of nearly impossible crevasses and seracs.

We started on the slabs but travelled slowly. Eventually this became impossible, and we returned to the ice. We struggled over the ice for hours, wriggling over delicate snow bridges or cutting steps across steep slopes. The going became more difficult all the time, and eventually in the late afternoon we were halted at the brink of a 150 ft. wall of ice. We had not the equipment to get down it, and there was no feasible way around it. We had reached within 2000 ft. of Camp III, but we could go no further and we felt very helpless. There was nothing else we could do but return to base camp, but for a few moments we knelt in the snow in silence.

As I looked up at the gleaming white peak under the dark blue sky, some lines of Henry Vaughan's drifted through my mind:

*They are all gone into the world of light,
And I alone sit lingering here.
Their very memory is fair and bright,
And my faint heart doth cheer.*

Lonely Journey

Without another word Jimmy and I shouldered our rucksacks once again and began the long, weary climb back to base camp.

On 4th August we left base camp for Gilgit, Rawalpindi and Karachi, where I said goodbye to Jimmy and began the lonely journey home.

What happened on the Batura peak must remain a mystery, but the most probable explanation is that the climbers were waiting in Camp IV or V for the weather to lift when they were caught by an avalanche. We do not know for certain whether the climbers reached the summit, and therefore within this narrow definition the expedition must be accounted a failure.

The chance vagaries of Himalayan weather which turned near-success into catastrophe cannot, however, detract from the fact that a body of young men of three different nationalities succeeded in launching a major expedition equipped and supplied to a higher standard than any other recent British or German expedition to the Karakoram.

In spite of our different origins, we reached a unity of comradeship, outlook and purpose which is seldom met with in expedition teams, and on this strong foundation we carried out our aims as far as fate would let us.



shot in the dark



By Harold Morris

OLD Ned rose from the table and wiped the corners of his mouth with his handkerchief. With a sigh of contentment he sought the comfort of his favourite chair and reached for his pipe. Another day's work having come to an end, and the inner man being well and truly satisfied, he was looking forward with some measure of eagerness to a well-earned rest.

Lighting the briar that had helped to soothe his nerves on so many similar occasions he began to puff the smoke in a sharp, rhythmic manner until he had satisfied himself that it was well and truly alight. His wife, Betsy, always attentive on these occasions, passed him the evening paper. Quietness reigned supreme.

But this was not to be for long. A loud banging on the front door caused old Ned to look up sharply and with some annoyance. Who, at this hour, dared to infringe the solitude he loved so well? Betsy went to answer the door.

"Good evening, Mrs. Bloggs," said a rather gruff voice. "Is Ned at home?" Betsy nodded, and with a polite gesture invited the caller indoors. Ned almost leaped out of the chair. "Well, if it isn't Jim Thompson!" he roared, holding out his hand.

Betsy stood watching the two greet each other somewhat boisterously and then hurried away to make a pot of tea, leaving Ned and Jim to enjoy a quiet natter.

"What in the world brings you down these parts, Jim?" questioned Ned. Jim hesitated for a moment, then made a gallant attempt to satisfy old Ned's curiosity.

"It's like this, Ned," he began. "I've come to see if I can borrow your double-barrelled gun."

Ned's pipe left his mouth and fell to the floor. The request had definitely staggered him. Having known Jim for a number of years, and being acquainted with most of his habits and hobbies, he knew full well that shooting never was in his line.

Jim noticed Ned's surprise and decided to put his mind at rest. "I realise the request is an unusual one, Ned," he muttered; "but the truth is I'm just about sick and tired of the wife nattering at me, so I'm going to put a stop to it once and for all."

Old Ned's face took on three different colours at the same time. People had been to see him on several occasions with a view to borrowing either the lawnmower or the hedge cutters, but a gun to silence a nattering wife had never before been requested.

And what was more, he didn't like it. He didn't like it at all. He looked closely at Jim's face. The chap seemed sane enough. He'd known him for nigh on twenty years, and during that time he'd always found him to be a very gentle and law-abiding sort of man. But according to this frightening and morbid request he had definitely taken a turn for the worse.

The fellow may look sane enough, but then so have many other would-be murderers. Old Ned opened his mouth to speak, but Jim silenced him with a wave of his hand. "It'll only take a minute to do the job, Ned," he told him. "I'll bring the gun back within the hour."

Ned began to pace up and down the room, fidgeting with his hands. He didn't like the look of things at all. Whipping round, he turned to face Jim.

"If I loan you my gun, lad, I'll be arrested for being an accessory to the fact." Jim stood poker-faced. "I'll be responsible for everything that happens," he said quietly.

"No blame will be attached to you in any way. I'll see to that." Old Ned was about to fire another barrage of questions when Jim banged his fist on the table. Old Ned may be a little slow in a lot of things, but regarding a temper—well, it's up in a jiffy, and when anyone comes to visit him, be it friend or foe, he considers it to be in very bad taste if they attempt to bang their fist on his table.

"Now look here, Jim," he began with some severity, pointing a finger. "I'll loan you the gun on one condition, and that is that I come with you and see what you propose to do with it." Jim Thompson heaved a sigh of relief. "That's OK with me, Ned," he muttered. "The sooner the job's done, the better."

Old Ned left the room and went upstairs. Lifting the lid of an old oak chest that once belonged to his grandfather, he picked up the gun. This was one of his prized possessions. Standing there, holding it in a way that spoke of experience, he recalled the days when he had spent most of his leisure hours down by the river, lying in wait for mallard duck.

In those days it had been said that he was one of the best marksmen in the district, and woe betide anything that came within range of those gleaming barrels. Putting a couple of cartridges in his pocket, he returned to the living room to find Betsy and Jim Thompson making a very hesitant attempt to converse.

Betsy stared in sheer surprise when she saw her hubby carrying the gun. Many years had passed since Ned had expressed a desire to try to get something to replace the Sunday joint. Her hubby was quick to notice the look on her face, and immediately put her mind at rest.

"Don't worry, lass," he said reassuringly, "I'm just popping out for a few minutes with Jim here." Donning a rather weatherbeaten hat, they left the room together and set off at a brisk pace down the high street, old Ned carrying the gun. The village policeman eyed them over somewhat suspiciously as he passed by on his bicycle.

"Might as well tell me what you intend doing with the gun, Jim," prompted Ned. Jim made no reply. "Shooting a dog?" Ned ventured. Jim shook his head. "Well, a cat, then?" Another shake of the head. On they marched along the highway leading to Jim's cottage.

Taking a sidelong glance, Ned could see that grim determined look on the face of his friend, and concluded that whatever he had on his mind he was certainly bent on carrying it out.

But Ned held the whip hand. He still had the gun, and what was more he was going to stick to it until Jim Thompson made it very clear as to his intentions. Nobody in the wide world was going to involve him in anything outside the law.

If Jim had firmly made up his mind to do somebody in, he would see to it that it wasn't his gun that ended a life. He took another sidelong glance at his friend. If it came to a rough house, Jim could render a good account of himself, thought Ned as he sized him up.

Turning the bend, they came into full view of Jim's cottage. The showdown was almost at hand. Quickening his footsteps, Jim opened the garden gate, walked towards the window and peered inside. Looking up, he beckoned Ned over. There was Mrs. Thompson, fast asleep in the rocking chair.

So that was it after all. Jim had been lying all the time. His intentions were quite evident. Then came the big surprise.

"It's like this," began Jim. "The wife's been getting at me a lot lately because the soot keeps dropping down the chimney into the hearth, making a hell of a mess, so I decided to put a stop to it."

Ned stood there with a puzzled expression on his face. "There's no chimney sweep within ten miles of here," continued Jim, "so I thought of adopting the idea they used in olden days. Ned looked even more puzzled. "And whatever method did they use in olden days?" he questioned.

"By firing a shot up the chimney," came the quick reply. "It never fails," added Jim.

"But what about the wife?" asked Ned with some concern.

Jim winked his eye. "She'll never know anything about it till it's all over," he answered confidently. Both men stepped inside. Mrs. Thompson looked at peace with the world. With her head well back on the chair and her mouth wide open, she was sleeping heavily and snoring like a dozen pigs. Little did the poor soul realise what was in store for her! Taking the gun from Ned's hand, Jim knelt on the rug and put the barrels up the chimney.

Taking a last look round the house, he pulled the trigger. BANG! With a roar like an express train entering a tunnel, soot began to fall in bucketfuls.

Mrs. Thompson leaped into the air screaming "The Germans are here! Help me! Save me!" Coming down to earth with a dull thud, the poor woman lay on the rug in a state of collapse. Lying there, with a couple of black eyes and both ears bunged up, she reminded one of something from outer space.

Then she spotted Jim with the gun in his hand. Leaping to life like a prizefighter from his corner, she grabbed the thing. Spitting threats through a set of gleaming white teeth set in a black background, she waved the gun menacingly. Ned beat Jim to the door by a good yard and shot off down the garden path, Jim close in his wake.

There was still another cartridge left in the thing, and Mrs. Thompson meant business. Hellbent for the open gate and freedom, they leaped in grand style. They had almost reached the wooden structure when a shattering roar from behind caused them to fall flat on their faces and crawl for cover, while the deathlike hiss of flying pellets crashed dangerously past their craniums.

Showers of honeysuckle fell around them as they lay trembling with fear. Ned ventured to peep through the branches. There stood Mrs. Thompson, her face as black as a negro minstrel. Woe betide her hubby when he did eventually pluck up courage to go inside!

If ever you get talking to old Ned, for heaven's sake don't ask for the loan of his gun. It's a rather painful request.



Loggers, near Innsbruck, Austria

Photo by A. Walker (Billingham Division)